

In the Claims:

1. (Original) A method for covalently affixing a biomolecule to a second molecule comprising contacting a biomolecule having an azido group covalently and operably affixed thereto with a second molecule having an alkynyl group covalently and operably affixed thereto under conditions permitting a 1,3-dipolar cycloaddition reaction to occur between the azido and alkynyl groups, thereby covalently affixing the biomolecule to the second molecule.
2. (Original) The method of claim 1, wherein the biomolecule is selected from the group consisting of a nucleic acid, a protein, a peptide, a carbohydrate, and a lipid.
3. (Original) The method of claim 2, wherein the biomolecule is DNA.
- 4-6. (Canceled)
7. (Original) The method of claim 1, wherein the second molecule is selected from the group consisting of a biomolecule, a fluorescent label, a radiolabeled molecule, a dye, a chromophore, an affinity label, and a dextran.
8. (Original) The method of claim 1, wherein the second molecule is selected from the group consisting of an antibody, biotin, streptavidin, and a metabolite.
9. (Original) The method of claim 1, wherein the biomolecule is immobilized.
10. (Original) The method of claim 1, wherein the second

molecule is immobilized.

11. (Original) The method of claim 1, wherein neither the biomolecule nor the second molecule is immobilized.
12. (Canceled)
13. (Original) The method of claim 1, wherein the conditions permitting a 1,3-dipolar cycloaddition reaction to occur comprise contacting at room temperature.
14. (Original) The method of claim 13, further comprising contacting in the presence of an agent which catalyzes a 1,3-dipolar cycloaddition reaction.
15. (Canceled)
16. (Canceled)
17. (Original) A method for covalently affixing a biomolecule to a second molecule comprising contacting a biomolecule having an alkynyl group covalently and operably affixed thereto with a second molecule having an azido group covalently and operably affixed thereto under conditions permitting a 1,3-dipolar cycloaddition reaction to occur between the alkynyl and azido groups, thereby covalently affixing the biomolecule to the second molecule.
18. (Original) The method of claim 17, wherein the biomolecule is selected from the group consisting of a nucleic acid, a protein, a peptide, a carbohydrate, and a lipid.
- 19-32. (Canceled)

33. (Original) A method for covalently affixing a biomolecule to a solid surface comprising contacting a biomolecule having an azido group covalently and operably affixed thereto with a solid surface having an alkynyl group operably affixed thereto under conditions permitting a 1,3-dipolar cycloaddition reaction to occur between the azido and alkynyl groups, thereby covalently affixing the biomolecule to the solid surface.
34. (Original) The method of claim 33, wherein the biomolecule is selected from the group consisting of a nucleic acid, a protein, a peptide, a carbohydrate, and a lipid.
35. (Original) The method of claim 34, wherein the biomolecule is DNA.
- 36-38. (Canceled)
39. (Original) The method of claim 33, wherein the solid surface is selected from the group consisting of glass, silica, diamond, quartz, gold, silver, metal, polypropylene, and plastic.
40. (Canceled)
41. (Original) The method of claim 39, wherein the solid surface is present on a bead, a chip, a wafer, a filter, a fiber, a porous media, or a column.
42. (Canceled)
43. (Original) The method of claim 33, wherein the conditions permitting a 1,3-dipolar cycloaddition reaction to occur comprise contacting at room temperature.

44. (Original) The method of claim 43, further comprising contacting in the presence of an agent which catalyzes a 1,3-dipolar cycloaddition reaction.
45. (Canceled)
46. (Canceled)
47. (Original) A method for covalently affixing a biomolecule to a solid surface comprising contacting a biomolecule having an alkynyl group covalently and operably affixed thereto with a solid surface having an azido group operably affixed thereto under conditions permitting a 1,3-dipolar cycloaddition reaction to occur between the alkynyl and azido groups, thereby covalently affixing the biomolecule to the solid surface.
- 48-80. (Canceled)